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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/825,048	04/15/2004	Areal Guerra Rogelio	G80-019 DIV	7402

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NOTARO & MICHALOS P.C.
Empire State Building
Suite 6902
350 Fifth Avenue
New York, NY 10118-0110

EXAMINER

CORDRAY, DENNIS R

ART UNIT	PAPER NUMBER
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1731

DATE MAILED: 07/24/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/825,048

Applicant(s)

ROGELIO, AREAL GUERRA

Examiner

Dennis Cordray

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-6 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-6 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☒ Certified copies of the priority documents have been received in Application No. 09744655.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|--|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date ____ | 6) <input type="checkbox"/> Other: ____ |

DETAILED ACTION

Specification

Applicant's claim for the benefit of a prior-filed application under 35 U.S.C. 119(e) or under 35 U.S.C. 120, 121, or 365(c) is acknowledged. Applicant has not complied with one or more conditions for receiving the benefit of an earlier filing date under 35 U.S.C. 120 as follows:

Applicant states that this application is a continuation or divisional application of the prior-filed application. A continuation or divisional application cannot include new matter. Applicant is required to change the relationship (continuation or divisional application) to continuation-in-part because this application contains the following matter not disclosed in the prior-filed application:

The prior-filed application, 09/744655, now U.S. Patent No.6743336, discloses preparation of a suspension of magnesium di-n-propylate from magnesium having a granulometric distribution lying between 50 and 150 m (col 5, lines 1-8 and 17-18; col 9, lines 13-15) whereas the instant Specification recites a corresponding granulometric distribution lying between 50 and 150 μ m (p 9, lines 19-26; p 10, lines 1-2; p 17, lines 33-35).

The disclosure is objected to because of the following informalities:

The word "CELLUSO" in the title of the invention should be changed to "CELLULOSIC" or "CELLULOSE."

On p 1, line 6, the missing U.S. Patent number 6,676,856 B1 should be filled in.

Appropriate correction is required.

Claim Rejections - 35 USC § 112

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claim 5 is rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. Claim 5 recites magnesium powder having a granulometric distribution lying between 50 and 150 m. It is doubtful if magnesium particles of the claimed size exist or can even be manufactured.

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 3-5 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 3 recites reacting magnesium metal with n-propanol at "a boiling point temperature." Claim 5 recites cooling the reaction mixture to "a boiling point temperature." It is not clear what is meant by "a boiling point temperature" since several reactants, solvents and mixtures are potentially involved, each of which has a boiling point temperature different from any of the others. In addition, as the composition of the

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reacting mixture changes, the boiling point temperature of the mixture will also change. In the broadest sense of the term, almost any temperature of choice is a boiling point temperature for some substance or mixture of substances.

Claim 4 recites reacting magnesium metal with n-propanol at "a reflux temperature," with no indication of what reflux temperature is contemplated.

Claim 4 is also indefinite as to when the toluene is added to the mixture. Is it added prior to the reaction; to the reacting mixture, which will significantly change the "reflux temperature;" or after the reaction is essentially complete?

Claim 5 recites the step of "cooling said reaction mixture to a boiling point temperature when hydrogen is released." It is not clear when the reaction mixture is cooled. Is it cooled at the first indication of hydrogen release, after a pre-determined amount of hydrogen is released, or when the evolution of hydrogen ceases upon complete reaction?

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1, 2 and 6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Smith (6676856) or Worsfold (CA 2142195) in view of Smith (4860685).

Smith ('856) discloses method for deacidification of cellulosic materials by spraying with a composition comprising a carbonated magnesium alkoxide in a lower alcohol solvent, which has from 1 to 4 carbon atoms and a moisture content of less than 100 ppm. The method of making the carbonated magnesium alkoxide can comprise reacting magnesium metal in the form of metal chips (size unspecified) with a lower alcohol and carbon dioxide. The products have concentrations of 25 to 75%. (Abstract, col 1, lines 12-17; col 3, line 51 to col 4, line 24). Excess solvent is filtered out, leaving a deacidification concentrate, which is then diluted with an ultra dry solvent to make the deacidification composition (col 5, lines 13-21). The preferred diluent is HFC-134a (1,1,1,2-tetrafluoroethane) because the diluent has almost no detrimental affect on printing inks and forms stable compositions with the carbonated magnesium alkoxide (col 5, lines 50-54; col 6, lines 26-30). Smith ('856) teaches that it is known in prior art that moisture in anhydrous raw materials presents significant problems with known cellulose treatment methods (col 1, lines 38-53). Smith ('856) thus treats all solvents to reduce their moisture content prior to use (col 2, lines 51-64).

Worsfold discloses a composition for deacidification of cellulosic material comprising a carbonated magnesium alkoxide, an alcohol solvent, and hydrofluorocarbon diluent. The composition is applied by spraying the cellulosic material with the composition (Abstract). The method for production of methoxymagnesium methyl carbonate and ethoxymagnesium ethyl carbonate comprises reacting magnesium metal with methanol or ethanol to produce magnesium methoxide or magnesium ethoxide respectively and carbonation is performed by

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treating a mixture of the methoxide in methanol or ethoxide in ethanol with carbon dioxide (p 5, line 34 to p 6, line 8). Worsfold discloses that other carbonated magnesium alkoxides can be prepared using other appropriate solvents to produce the corresponding homologs (p 6, lines 12-16). Suitable diluents include fluorinated ethanes and propanes (p 6, lines 23-27; p 7, lines 13-14).

Smith ('856) and Worsfold do not specifically disclose propoxymagnesium propyl carbonate (carbonated magnesium di-n-propylate) as a deacidification agent, although Worsfold does disclose that other carbonated magnesium alkoxides can be used.

Smith ('685) discloses a method for deacidification of cellulosic materials by spraying with a composition comprising a carbonated magnesium alkoxide (methoxymagnesium methyl carbonate, ethoxymagnesium ethyl carbonate and propoxymagnesium propyl carbonate are given as suitable examples), a lower alcohol solvent having from 1 to 3 carbon atoms and a chlorofluorocarbon diluent (Abstract, col 5, lines 13-35; col 6, lines 42-49).

The art of Smith ('856), Worsfold, Smith ('685) and the instant invention are analogous as pertaining to making and using deacidification compositions for cellulosic materials. It would have been obvious to one of ordinary skill in the art to use propoxymagnesium propyl carbonate as the deacidification agent in the composition of Smith ('856) or Worsfold in view of Smith ('685) as a functionally equivalent option. Using a dry carbon dioxide would be obvious to prevent unwanted side reactions per the teaching of Smith ('856). Note that Smith ('856) is usable as a reference under 35 U.S.C. 102(e) and thus is also usable under 35 U.S.C. 103(a).

Claims 2-5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Smith (6676856) or Worsfold (CA 2142195) in view of Smith (4860685), as applied above to Claims 1 and 6, and further in view of Bell et al (3706665) and Sullivan (2265220).

Smith ('856), Worsfold, and Smith ('685) do not disclose reacting magnesium with propanol in the presence of iodine at a boiling point temperature. Smith ('856), Worsfold, and Smith ('685) also do not disclose using azeotropic distillation to remove excess propanol.

Bell et al disclose a process for preparing magnesium alkoxides, including magnesium n-propoxide that comprises reacting clean magnesium metal with excess alkanol (n-propanol for the propoxide) and using iodine as a catalyst (col 2, lines 24-32). Toluene can be added (col 2, lines 34-37). The reaction can be conducted at the refluxing temperature, which is a boiling temperature of the mixture, or can be cooled to moderate the reaction (col 2, lines 45-51). The reaction product of magnesium alkoxide can be carbonated by treating the solution with gaseous carbon dioxide to produce a product at least 50%, and preferably at least 60% carbonated (col 2, lines 52-71). Excess alcohol can be removed by azeotropic distillation (col 3, lines 25-30). Although an azeotrope between the propanol and toluene is not specifically disclosed by Bell et al, the presence of toluene in the mixture would form the azeotrope during the distillation process. Azeotropic separation is well known, as taught by Sullivan (p 1,

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right col, lines 20-35). Sullivan also teaches that toluene and propanol form a low boiling azeotrope.

The art of Smith ('856), Worsfold, Smith ('685), Bell et al, Sullivan and the instant invention are analogous as pertaining to preparing magnesium alkoxides. It would have been obvious to one of ordinary skill in the art to use iodine as a catalyst in preparing the magnesium alkoxides in the process of Smith ('856) or Worsfold in view of Smith ('685) and further in view of Bell et al and Sullivan as a method known in the art of initiating the reaction. It would also have been obvious to employ azeotropic separation using toluene to remove the excess alcohol as a functionally equivalent option and well known technique in the art. Refluxing the reacting mixture would have been obvious to avoid loss of solvent during the reaction.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure [Kameinski et al (5208072) and Kameinski (4634786)]. They pertain to carbonated magnesium alkoxyalkyl carbonates used for deacidification of paper.


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dennis Cordray whose telephone number is 571-272-8244. The examiner can normally be reached on M - F, 7:30 -4:00 PM.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Steven Griffin can be reached on 571-272-1189. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.


DRC


STEVEN P. GRIFFIN
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 1700